Hoffman Falls Wind Project

Case No. 23-00038

900-2.15 Exhibit 14

Wetlands

Revision 2

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EXHIBIT 14 WETLANDS

(a) Map Showing Delineated Wetland Boundaries

All wetlands and streams at the Facility Site were identified through on-site field investigations within and adjacent to the proposed Facility components (e.g., 100 feet from the area to be disturbed by the construction of the Facility) where property access was available (Wetland Study Area). Wetland boundaries were approximated for areas outside the Facility Site but within 100-feet from the limit of disturbance where the Applicant did not have access. Field delineations were primarily conducted between May and November 2023. The identification of wetland boundaries was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE, 2012) and the *New York State Freshwater Wetland Delineation Manual* (NYSDEC, 1995). The results of the on-site field delineations are documented in the Wetland and Stream Delineation Report (Appendix 14-A – Revision 1). The boundaries of all delineated wetlands are depicted in Appendix 14-A – Revision 1, and in Figure 14-1 – Revision 2 of this Application.

Pursuant to 19 NYCRR § 900-1.3(e)(2), a Wetland Delineation Report provided to ORES with the February 15, 2024 Article VIII Siting Permit Application to capture Facility layout changes and small shifts in the limits of disturbance (LOD). On April 12, 2024, ORES staff issued revised Surface Water and Wetland JDs for the Facility. Following the receipt of ORES's August 5, 2024, Notice of Incomplete Application (NOIA), the Applicant made small changes to the layout and design of the Facility. To support these layout changes, EDR conducted additional wetland delineations in August 2024.The scope of these additional delineations are outlined in the cover letter to the Wetland Delineation Report (Appendix 14-A – Revision 1).

The Applicant is in the process of consulting with the U.S. Army Corps of Engineers (USACE) to determine federal jurisdiction of delineated wetlands.

(b) Wetland and Stream Delineation Report

As indicated above, the results of the on-site field delineations are documented in the Wetland and Stream Delineation Report (Appendix 14-A – Revision 1). The identification of wetland boundaries was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE, 2012) and the *New York State Freshwater Wetland Delineation Manual* (NYSDEC, 1995). All wetland boundaries were defined in the field by sequentially numbered pink surveyor's flagging, and flag locations were recorded using GPS technology with reported sub-meter accuracy. Data were collected from sample plots in representative wetland cover types and recorded on USACE Routine Wetland Determination forms.

As documented in Appendix 14-A – Revision 1, wetlands delineated within the Wetland Study Area total approximately 161.8 acres. Wetlands were categorized as one or more of the following community types: palustrine emergent wetland (PEM), palustrine scrub-shrub wetland (PSS), palustrine forested wetland (PFO), or palustrine open water (POW). Appendix 14-A – Revision 1 provides detailed information regarding the results of the delineation survey, including descriptions of the wetland communities identified.

(c) Wetland Functional Assessment

A Wetland Functional Assessment (Appendix 14-C – Revision 1) was conducted for all wetlands delineated within the Wetland Study Area. The functions and values assessment follows the methodology described in the *Wetlands Functions and Values: Descriptive Approach* described in the September 1999 supplement to *The Highway Methodology Workbook* (Supplement) by the New England Division of the USACE (USACE, 1995). The functional assessment is presented in tabular format following the format developed by EDR. Individual functional assessment forms for each wetland feature are included in Appendix 14-C – Revision 1.

Wetland functions are ecosystem properties that result from the biologic, geologic, hydrologic, chemical and/or physical processes that take place within a wetland. As indicated in the Supplement, these functions include:

- Groundwater Recharge/Discharge
- Flood flow Alteration
- Fish and Shellfish Habitat
- Sediment/Pollutant Retention
- Nutrient Removal/Retention/Transformation
- Production (Nutrient) Export
- Sediment/Shoreline Stabilization
- Wildlife Habitat.

Wetland values are the perceived benefits for society that can be derived from the ecosystem functions and/or other characteristics of a wetland. Values attributed to wetlands in the Supplement include the following:

- Recreation
- Education/Scientific Value
- Uniqueness/Heritage
- Visual Quality/Aesthetics
- Threatened or Endangered Species Habitat.

Wetlands functions and values recognized under Article 24 of the Environmental Conservation Law are similar to those described in the Supplement, and include:

- Flood and storm control by the hydrologic absorption and storage capacity of wetlands

- Breeding, nesting, and feeding habitat for many forms of wildlife, including migratory wildfowl and rare species such as bald eagle and osprey
- Protection of subsurface water resources and recharge of ground water supplies
- Recreation by providing areas for hunting, fishing, boating, hiking, bird watching, photography, camping, and other uses
- Pollution treatment by serving as biological and chemical oxidation basins
- Erosion control by serving as filtering basins, absorbing silt and organic matter, and protecting channels and harbors
- Education and scientific research by providing outdoor bio-physical laboratories, living classrooms, and training/education resources
- Open space and aesthetic appreciation by providing often the only remaining open areas along crowded river fronts and coastal regions
- Sources of nutrients in freshwater food cycles, nursery grounds, and sanctuaries for fish.

Based on the "Considerations/Qualifiers" outlined in the Supplement, EDR developed a matrix that includes the basic considerations that help identify the primary functions and values provided by wetlands. This includes observed vegetation conditions, hydrologic conditions, size, adjacent area conditions, and the availability of public access. Specific conditions within each of these consideration areas were defined to allow each wetland's functions and values to be evaluated based on data collected during field delineation.

The functions and values assessment indicates that most of the delineated wetlands within the Wetland Study Area provide some level of groundwater recharge/discharge and water quality improvement functions. In most cases these functions are limited by the small size of many of the wetlands. A total of 111 wetlands within the Wetland Study Area are adjacent to active or semi-active agricultural areas. Of these, 58 delineated wetlands meet criteria to provide sediment/pollution retention benefits. In total, 67 of the wetlands delineated within the Wetland Study Area were deemed to provide sediment/pollution retention benefits, and 51 of these also had the size, vegetation diversity, and density to remove, retain, and transform nutrients. Fifty-two wetlands delineated within the Wetland Study Area meet the criteria to provide flood flow alteration benefits. Additionally, for 16 wetlands, production export is a primary function and value. Fifteen wetlands meet the criteria to provide wildlife habitat. Due to the private ownership of most properties within the Wetland Study Area, none of the delineated wetlands provide any substantial social values such as recreation, education/scientific values, or visual or aesthetic values for the general public.

(d) Offsite Wetlands Analysis

The Applicant reviewed NYS Freshwater Wetland and National Wetland Inventory (NWI) mapping, New York State Department of Environmental Conservation (NYSDEC) Stream Class mapping, 2-foot topographic contours, and recent aerial imagery of wetlands and streams that extend beyond the Wetland Study Area. Off-site wetlands were approximated using GIS review and analysis for areas within 100 feet of the limits of disturbance where the Applicant does not have access to assess potential hydrological connections outside the Facility Site.

Wetlands extending beyond the Facility Site generally have similar functions and values to those wetlands delineated in the Wetland Study Area, described in Exhibit 14(c). These wetlands are also not expected to be significantly different ecologically from those delineated in the Facility Site, and likely contain similar vegetative communities as described in the Wetland Delineation Report (Appendix 14-A – Revision 1). Wetlands within the Facility Site may also be hydrologically connected to off-site wetlands through the network or agricultural ditches and streams at the site (see Exhibit 13 for a discussion of surface waters in the Facility Site).

In addition, three of the wetlands extending beyond the bounds of the Facility Site are also related to mapped NYSDEC freshwater wetlands, including 05-W001, 10-W001, and 26-W026, as indicated in the final jurisdictional determination issued by ORES (Appendix 14-B).

(e) Avoidance of NYSDEC-Regulated Wetland Impacts

To avoid impacts to state-regulated freshwater wetlands and adjacent areas to the greatest extent practicable, the Applicant utilized data collected during wetland and stream delineations to inform design. Facility components were sited outside of wetland/adjacent areas where practicable. The collection substation and point of interconnection (POI) switchyard, access roads, collection lines, turbines, and horizontal directional drilling (HDD) locations were shifted multiple times to avoid and minimize wetland impacts. Wetland impacts related to collection lines will be avoided where practicable by utilizing trenchless installation technologies. However, construction of Facility components will result in unavoidable impacts to state-regulated wetlands and adjacent areas.

(f) Measures to Minimize NYSDEC-Regulated Wetland Impacts

The Applicant will implement specific measures to minimize proposed wetland impacts. However, the construction of the Facility is anticipated to result in both temporary and permanent impacts to wetlands and adjacent areas as described further in Section (f)(1) and depicted in the Wetland and Stream Impact Drawings (Figure 14-2 - Revision 1).

(1) Unavoidable Impacts to State Jurisdictional Wetlands

The Project is estimated to impact approximately 1.36 acres within NYS-jurisdictional wetlands. Tables 14-1 and 14-2 outline the anticipated impacts to state-regulated wetlands and adjacent areas, respectively. Locations of all impacts to state-regulated wetlands and adjacent areas are depicted in Figure 14-2 - Revision 1.

Most impacts will be temporary and are associated with the clearing and manipulation of undisturbed herbaceous and woody vegetation (0.64 acres), the grading and manipulation of disturbed areas (0.04 acres), or the installation of power interconnections (0.01 acres). Although not a permanent impact, wetland forest clearing proposed by the Applicant (0.06 acres) will take some time to recover. Impacts associated with the installation of access roads (0.45 acres) or other activities integral to the project involving grading (0.15 acres) will persist for the life of the Facility.

As outlined in Tables 14-1 and 14-2 and 19 NYCRR §900-2.15(g)(2) in the Section 94-c regulations, the wetland and regulated adjacent area impacts proposed by the Applicant are allowed. However, mitigation will be required for 1.33 acres of wetland impacts and 2.17 acres of regulated adjacent area impacts. In accordance with the regulations, mitigation must be accomplished through creation, restoration, and enhancement at ratios as detailed in 19 NYCRR §900-2.15(g)(2)(i). As detailed in 19 NYCRR §900-2.15(g)(2)(ii), the required mitigation must occur within the same HUC 8 sub-basin and within a waterbody that is subject to NYSDEC jurisdiction under Environmental Conservation Law Article 24. The Applicant proposes to restore and mitigate state-jurisdictional wetland impacts in accordance with a Wetland Restoration and Mitigation Plan, submitted as Appendix 14-D to this Exhibit.

Table 14-1 Impacts to State-Regulated Wetlands Within the Facility Site

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Wetland Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area (acres)			
05-W001	7	2	CA-11	PSS	Intermediate	Clearing and Manipulation of undisturbed herbaceous and woody vegetation	0.11	A(M3)	The portion of parcel 79.-1-3 that is located southeast of the existing National Grid transmission line is the only area available to the Applicant to site the Facility's substation and switchyard. The site is constrained by its small size, topography, and the presence of wetland 05-W001. Avoidance is not practicable as there physically is not sufficient room to move all disturbance associated with the construction of the substation and switchyard out of this wetland.	The Applicant has placed the collection substation and point of interconnection (POI) switchyard as far from wetland 05-W001 as possible, has compacted the size of the substation and switchyard, and has incorporated retaining walls and other design elements to minimize impacts to this wetland to the greatest extent practicable. The Applicant has also designed the substation site to avoid grading activities involving fill within this wetland and clearing of forest—the only major activity proposed—has been reduced to less than a tenth of an acre.
					Intermediate	Other Activities integral to the project involving grading	0.11	A(M3)		
				PFO	Major	Clearing of forest	0.06	A(M2)		
					Intermediate	Other Activities integral to the project involving grading	0.04	A(M3)		
12-W011	20	N/A	Unmapped	PEM	Major	Access Roads	0.01	A(M3)	The access road crossing proposed by the Applicant is necessary to deliver wind turbines to the site. Considering the land currently controlled by the Applicant, no viable alternatives to this access road on parcel 111.-1-1 are available. As Wetland 12-W011 crosses parcel 111.-1-1 from east to west and the Applicant's access road must traverse the parcel from north to south to access US HWY 20, a crossing of this wetland is unavoidable.	To minimize impacts to wetland 12-W011 and its regulated adjacent areas, the Applicant routed the proposed access road along a previously disturbed corridor associated with an existing farm road, utilizing existing culvert crossings to minimize direct impacts. Impacts were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., grading, culvert installation, etc.).
					Intermediate	Clearing and Manipulation of undisturbed herbaceous and woody vegetation	0.02	A(M3)		
12-W013	10	N/A	Unmapped	PFO	Major	Power Interconnections	0.01	A(M3)	Wetland 12-W013 and other similar wetlands are located along all viable collection line routes available to the Applicant between T-8 and T-9. Although HDD was considered in this location, this crossing is located in an inaccessible area; the required access to both sides of any proposed boring would require tree clearing and disturbance to wetland 12-W013 and its regulated adjacent area, and considering the narrowness of the crossing in this location, conventional trenching is the most practicable crossing method.	The Applicant has selected the narrowest crossing point of wetland 12-W013 and its regulated adjacent area and has utilized the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., work corridors necessary for trenching and cable installation).
12-W027	2	N/A	Unmapped	PEM	Major	Access Roads	0.02	A(M3)	The temporary laydown yard proposed by the Applicant in this location is necessary to construct the Facility. Unlike most other similarly sized potential laydown areas, the location selected requires relatively little grading and is amenable to the landowner. Considering the location of the laydown area relative to wetland 12-W027 and the need for two access points on a public road to maintain logistics, there is no practicable alternative that avoids impacts to this wetland.	Impacts to this wetland were minimized by siting the proposed temporary intersection improvement for turbine delivery (which will serve as one access point for the laydown yard along South Road) to the northeast in a location that avoids all impacts to wetland 12-W027. The Applicant moved the location of the second laydown yard access point from the southeastern corner of the laydown yard to its current central location to minimize impacts--the current location provides the narrowest possible crossing point of wetland 12-W027. Impacts were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., grading, culvert installation, etc.). Considering the current land use within and in proximity to this wetland, the Applicant's proposed erosion and sediment controls will likely improve the functions and values of wetland 12-W027 and its adjacent areas during construction.
					Minor	Grading and manipulation of disturbed areas	0.01	A(E)		
66-W003	9	N/A	Unmapped	PSS	Major	Access Roads	0.18	A(M3)	The wetland 66-W003 crossing location proposed by the Applicant facilitates a short, direct access route to T-8 that minimizes tree clearing and grading. Avoidance of impacts to this wetland would require the Applicant to redesign the T-8 access road to approach T-8 from the south, which would approximately double the amount of tree clearing required to access this turbine. In addition, the overall amount of grading would increase, and impacts to additional federally jurisdictional wetland would be necessary to support required rerouting of the power interconnection.	Impacts to wetland 66-W003 and its regulated adjacent areas were minimized by utilizing the narrowest disturbance limits allowable at the proposed crossing, considering the applicable engineering constraints (e.g., grading, culvert installation, etc.). In addition, the four collection line circuits that must pass through this area were collocated with the disturbance associated with the access road installation to minimize impacts.
					Intermediate	Clearing and Manipulation of undisturbed herbaceous and woody vegetation	0.01	A(M3)		
66-W011	13, 14, 15	N/A	Unmapped	PEM	Major	Access Roads	0.002	A(M3)		

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Wetland Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area (acres)			
					Minor	Grading and manipulation of disturbed areas	0.02	A(E)	Wetland 66-W011 is a sprawling beaver dam complex that, with its regulated adjacent areas, encompasses the majority of parcel 92.-2-12. The Applicant evaluated numerous alternatives inside and outside the Facility Site that would avoid this wetland complex. However, considering the Applicant's current land control, the access road to T-11, the access road between T-11 and T-12, and the three collection line circuits that are necessary to construct and operate the Facility must pass through this area, and avoidance of this wetland is not possible.	The design of the access road to T-11, the access road between T-11 and T-12, and the three associated collection line circuits progressed iteratively throughout the summer and fall of 2023. Wetland and cultural field crews were mobilized to the site multiple times to extend wetland and cultural survey boundaries in search of areas within the respective parcels that would give the engineering team the flexibility needed to minimize impacts to wetland 66-W011. The current access road to T-11 has been pushed as far to the west as is possible, considering land control and grading limitations. In routing this access road, the design team also had had to consider impacts to state-regulated streams 23-ST006 and 12-ST016 and associated best management practices (e.g., perpendicular crossings of these streams). The access road between T-11 and T-12, which is necessary to facilitate the delivery of turbines components to T-1 through T-11, has been sited to follow an existing farm road for much of its length and has otherwise been sited to utilize upland islands and narrow wetland crossings to the greatest extent practicable. Following the existing farm road along its entire length was not possible due to turning radii and grade limitations of the turbine delivery vehicles. In addition, routing the western half of this access road further to the south would have resulted in significantly more tree clearing and grading within regulated adjacent areas. The three collection line circuits were designed to follow the disturbance corridor of the access road between T-11 and T-12 to the greatest extent possible. In addition, HDD is being proposed for both primary crossings of 66-W011. Bore pits for HDD's were sited outside of upland forests in field cropland, successional shrubland, and spruce/fir plantations. Bore lengths were kept as short, where possible, to reduce the likelihood of inadvertent returns. Impacts for the access road and collection line crossing were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossings, considering the applicable engineering constraints (e.g., grading, culvert installation, etc.) and the amount of construction traffic that will pass through this area.
				PSS	Major	Access Roads	0.22	A(M3)		
					Intermediate	Clearing and Manipulation of undisturbed herbaceous and woody vegetation	0.50	A(M3)		
66-W016	1	N/A	Unmapped	PEM	Major	Access Roads	0.02	A(M3)	Chittenango Creek and its associated wetland complex flows along the southeast side of Wyss Road, bisecting the Facility Site. All routes to T-3 and T-4 that are available to the Applicant cross Chittenango Creek and wetland 66-W016. Avoidance of impacts to this feature associated with access road installation is not possible. However, impacts associated with the proposed collection line crossing of this wetland will be avoided using HDD.	Although a crossing of wetland 66-W016 is unavoidable, the Applicant has significantly minimized impacts to both Chittenango Creek (state-regulated stream 12-ST015) and wetland 66-W016 by utilizing an existing farm road crossing in an active pasture. This crossing is located at one of the narrowest points of this wetland and is located in an area that avoids the need for tree clearing. Impacts for the access road and collection line crossing were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossings, considering the applicable engineering constraints (e.g., grading, culvert installation, etc.)
					Minor	Grading and manipulation of disturbed areas	0.01	A(M3)		
Total A(E) Impacts							**0.03**			
Total A(M3) Impacts							**1.27**			
Total A(M2) Impacts							**0.06**			
Total Impacts							**1.36**			

[1] Per 19 NYCRR 900-2.15(g)(3): A(M2) = allowed, mitigation required (2:1 mitigation ratio by area of impact – creation, restoration, and enhancement), A(M3) = allowed, mitigation required (1:1 mitigation ratio by area of impact – creation, restoration, and enhancement), and A(E) = allowed, enhancements and/or mitigation required (e.g., planting of adjacent area, mitigating hydrological changes)

[2] Section 94-c setback requirements dictate where wind turbine infrastructure may be placed on a parcel relative to where participating and non-participating properties, residences, and structures, public roadways, gas wells, substations, and above-ground electric systems exist; siting of the wind turbines and associated infrastructure must balance where sensitive resources exist, setback requirements, and landowner requests. Electrical engineering of a wind facility must be designed to accommodate power from individual turbines to the collection substation. Access roads are necessary for infrastructure maintenance and emergency response. Temporary work areas may be required to allow for construction and installation of Facility infrastructure.

Table 14-2. Impacts to State-Regulated Wetland Adjacent Areas Within the Facility Site

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
05-W001	7	2	CA-11	Successional Shrubland, Successional Old Field, and	Major	Other activities and structures integral to the	0.87	A(E)	See the wetland 05-W001 avoidance discussion in Table 14-1. Although the Applicant was largely able to avoid	See the wetland 05-W001 minimization discussion in Table 14-1.

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
				Successional Northern Hardwoods		project involving placement of fill			major activities in wetland 05-W001, major activities in the adjacent area were unavoidable due to the constraints outlined in Table 14-1.	
				Successional Northern Hardwoods	Major	Clearing of forest	0.07	A(E)		
10-W001	18	1	MO-6	Row cropland	Major	Power Interconnections	0.56	A(E)	Morrisville Swamp (wetland 10-W001) is a large palustrine forested wetland, portions of which have been converted to row cropland. This wetland bisects the Facility Site north to south. As a power interconnection between the eastern and central portions of the Facility is necessary to carry power to the substation, crossing this wetland and its regulated adjacent area is unavoidable.	The Applicant is utilizing HDD to avoid all impacts to wetland 10-W001 and has utilized the narrowest disturbance limits allowable within the regulated adjacent area, considering the applicable engineering constraints (e.g., work corridors necessary for trenching and cable installation). The Applicant considered placing the western bore pit for the proposed HDD crossing outside of the regulated adjacent area. However, this would result in a 70% increase in the length of the proposed boring. Considering the current use of the regulated adjacent area (row cropland) and the added inadvertent return risks associated with increasing the length of the bore, it was determined that the proposed approach was likely to be the least impactful overall.
					Minor	Grading and manipulation of disturbed areas	0.66	A(E)		
10-W008	17	N/A	Unmapped	Beech-maple Mesic Forest	Major	Power Interconnections	0.36	A	Callahan Brook (stream 10-ST006) and its associated wetland complex (inclusive of 10-W008) bisects the Facility Site parcels that connect T-16 to the rest of the Facility. A crossing of these features is unavoidable, and the Applicant has selected a crossing location that is the least impactful to state-regulated resources, all things considered.	The Applicant is utilizing HDD to avoid all impacts to wetland 10-W008 and has utilized the narrowest disturbance limits allowable within the regulated adjacent area, considering the available access to the site and engineering constraints (e.g., work corridors necessary for trenching and cable installation). The Applicant considered placing the southern bore pit further to the south and outside of the regulated adjacent area. However, the area south of the proposed bore pit location contains steep slopes and gains elevation rapidly. The proposed southern bore pit location was ultimately selected as it minimizes topography variation along the length of the bore, reducing inadvertent return risks.
12-W001	4	N/A	Unmapped	Paved Road/Path, Successional Shrubland	Minor	Grading and manipulation of disturbed areas	0.06	A	The proposed intersection improvement is necessary to deliver turbines to the Site. Considering the areas available to the Applicant to site this improvement impacts to this regulated adjacent area are unavoidable.	The Applicant has minimized impacts to wetland 12-W001 and its regulated adjacent area by avoiding direct impacts to this wetland and limiting regulated adjacent area impacts to areas that are regularly disturbed by the operation and maintenance of Mutton Hill Road and Wyss Road.
						Selective cutting of trees and shrubs	0.03	A		
12-W011	19, 20	N/A	Unmapped	Field Cropland, Successional Old Field, and Successional Shrubland	Major	Access Roads	0.35	A	See the wetland 12-W011 avoidance discussion in Table 14-1.	See the wetland 12-W011 minimization discussion in Table 14-1. By routing the access road along an existing farm road, impacts were largely limited to recently disturbed areas (cropland and old fields) and historically disturbed areas (successional shrublands).
				Successional Shrubland	Intermediate	Clearing and manipulation of undisturbed herbaceous and woody vegetation	0.50	A		
				Field Cropland, Row Cropland, and Successional Old Field	Minor	Grading and manipulation of disturbed areas	0.22	A		
12-W013	10	N/A	Unmapped	Beech-maple Mesic Forest	Major	Power Interconnections	0.44	A	See the wetland 12-W013 avoidance discussion in Table 14-1.	See the wetland 12-W013 minimization discussion in Table 14-1.
12-W027	2	N/A	Unmapped	Cropland and Pastureland	Major	Access Roads	0.09	A	See the wetland 12-W027 avoidance discussion in Table 14-1.	See the wetland 12-W027 minimization discussion in Table 14-1. Impacts to regulated adjacent areas were minimized by siting all disturbance in areas regularly disturbed by farming practices.
				Cropland and Pastureland	Minor	Grading and manipulation of disturbed areas	1.55	A		
12-W040	21	N/A	Unmapped	Successional Old Field, Successional northern hardwoods	Major	Access Roads	0.15	A	The proposed access road is necessary to deliver turbines to the site. The routing of this access road was developed in coordination with the landowner to utilize the existing farm road, avoid agricultural resources, and minimize grading to the greatest extent practicable. Considering these constraints, the Applicant was able to avoid all impacts to wetland 12-W040. However, complete avoidance of the regulated adjacent area is not practicable as shifting the road to the northeast would increase grading and infringe on agricultural land.	Considering the site constraints (i.e., landowner requirements and minimizing impacts to farmland), the Applicant has minimized impacts by siting the access road to generally follow the existing farm road in previously disturbed areas. Impacts to wetland 12-W040 have been avoided and grading has been minimized by roughly following the 1370-foot contour.
					Major	Clearing of forest	0.07	A		
					Intermediate	Clearing and manipulation of undisturbed herbaceous and woody vegetation	0.17	A		
					Minor	Grading and manipulation of disturbed areas	0.10	A		

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
23-W002 and 93-W001[3]	5, 6	N/A	Unmapped	Mowed Lawn with Trees, Successional Old Field, Successional Shrubland	Major	Power Interconnections	0.14	A	Wetland 23-W002 and 93-W001 and their regulated adjacent areas span the entirety of the parcels that connect T-1 through T-4 to the rest of the Facility. Avoidance of impacts to these features is not possible considering the Applicant's current land control.	Impacts to wetland 23-W002 and 93-W001 have been avoided completely through the use of HDD. Impacts to the regulated adjacent areas have been minimized by utilizing an existing driveway to access the northern central bore pit between wetland 23-W002 and 93-W001. The Applicant considered shifting the southern bore pit for the wetland 23-W002 crossing further to the south to avoid impacts to the regulated adjacent area; however, the area south of the currently proposed bore pit is the location of the landowner's septic system. The Applicant considered alternative locations for the northern bore pit for the wetland 93-W001 crossing but there are no viable alternatives that are outside the regulated adjacent area.
				Successional Shrubland	Intermediate	Clearing and manipulation of undisturbed herbaceous and woody vegetation	0.15	A		
				Mowed Lawn with Trees and Successional Old Field	Minor	Grading and manipulation of disturbed areas	0.37	A		
26-W002	6	N/A	Unmapped	Mowed Lawn, Successional Shrubland	Major	Power Interconnections	0.20	A	Wetland 26-W002 and its regulated adjacent area span the entirety of the parcel that connects T-1 through T-4 to the rest of the Facility. Avoidance of impacts to these features is not possible considering the Applicant's current land control.	Impacts to wetland 26-W002 have been avoided completely through the use of HDD. The Applicant has minimized impacts by utilizing previously disturbed areas to the greatest extent practicable. The Applicant considered placing the northern bore pit for the proposed HDD crossing to the north, outside of the regulated adjacent area. However, this would almost triple the length of the proposed boring. Considering the primary community type of the impacted portions of the regulated adjacent area (mowed lawn) and the added inadvertent return risks associated with significantly increasing the length of the bore, it was determined that the proposed approach was likely to be the least impactful overall.
					Intermediate	Clearing and manipulation of undisturbed herbaceous and woody vegetation	0.26	A		
					Minor	Grading and manipulation of disturbed areas	0.50	A		
26-W019	11	N/A	Unmapped	Beech-maple Mesic Forest	Major	Power Interconnections	0.95	A	Turbine T-10 has been sited to avoid impacts to wetland 26-W019, while also avoiding impacts to adjacent federally regulated wetlands and streams, and steep slopes located to the south of the turbine. Shifting this turbine a sufficient distance to avoid impacts to this wetland's regulated adjacent area is not practicable, as it would result in direct impacts to federally regulated wetlands or streams or place the turbine in a location that would not be suitable from a grading or wake/turbulence/turbine-to-turbine setback standpoint. In addition, the Applicant has avoided impacts to wetland 26-W019; however, in order to avoid impacts to the regulated adjacent area, the three collection lines circuits would need to be shifted approximately 100 feet to the southwest. This shift is not practicable as it would place the three circuits on a very steep side slope above a large beaver dam complex that, if delineated, would likely be found to be state-regulated. Although the current routing of these collection lines will result in impacts to the regulated adjacent area, it represents the least impactful design option.	The Applicant has carefully designed the siting of turbine T-10 and the three collection line circuits in a manner that avoids all impacts to wetland 26-W019. Considering the siting constraints outlined and considering the available access to the site and engineering constraints (e.g., grading requirements, work corridors necessary for trenching and cable installation) the Applicant has minimized impacts to these regulated adjacent areas to the greatest extent practicable.
					Major	Other activities and structures integral to the project involving placement of fill	0.43	A		
33-W003	3	N/A	Unmapped	Row Cropland, Successional Shrubland, Successional Northern Hardwood Forest	Major	Power Interconnection	0.15	A	The collection line circuit has been sited to follow the edges of the existing active agricultural fields. This routing completely avoids impacts to Wetlands 33-W003, and 33-W006. However, avoiding impacts to the regulated adjacent area of Wetland 33-003 would require the Applicant to shift the collection line nearer to Wetland 33-W006 and its regulated adjacent area, placing it in the middle of the agricultural field, resulting in additional impacts to active agricultural lands during construction. This route would be inferior to the current route, which	The Applicant has minimized impacts to Wetland 33-W003 by avoiding all impacts to wetland 33-W003 and minimized impacts to the adjacent area by siting the collection circuit along the edges of active agricultural fields to avoiding tree clearing by utilizing the narrowest disturbance limits possible, considering the available access to the site and engineering constraints (e.g., work corridors necessary for trenching and cable installation).
					Minor	Grading and manipulation of disturbed areas	0.41	A		

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
									uses the edges of existing fields, and is not a practicable alternative.	
33-W004	22	N/A	Unmapped	Row Cropland, Field Cropland, Hemlock Northern Hardwood Forest	Major	Power Interconnections	0.19	A	The collection line circuit has been sited to follow an existing farm road along the edge of active agricultural fields. This routing completely avoids impacts to wetland 33-W004. However, avoiding impacts to the regulated adjacent area would require the Applicant to shift the collection line to the northeast, placing it in the middle of the adjacent agricultural field. This route would be inferior to the current route, which uses an existing farm road, and is not a practicable alternative.	The Applicant has minimized impacts to wetland 33-W004 and its regulated adjacent area by avoiding all impacts to wetland 33-W004 and minimizing impacts to the adjacent area by siting the collection circuit along an existing farm road, avoiding tree clearing by utilizing the narrowest disturbance limits possible, considering the available access to the site and engineering constraints (e.g., work corridors necessary for trenching and cable installation), and by limiting disturbance to previously disturbed areas.
				Row Cropland, Field Cropland, Pastureland	Minor	Grading and manipulation of disturbed areas	0.05	A		
33-W005 and 33-W006[3]	3	N/A	Unmapped	Row Cropland	Major	Power Interconnections	0.30	A	The collection line circuit has been sited to the edge of an active agricultural field. This routing completely avoids impacts to wetlands 33-W005 and 33-W006. However, avoiding impacts to the regulated adjacent area would require the Applicant to shift the collection line to the southeast, placing it in the middle of the agricultural field. This routing would be inferior to the current route, which minimizes agricultural impacts, and is not a practicable alternative.	The Applicant has minimized impacts to wetlands 33-W005 and 33-W006 and its regulated adjacent area by avoiding all impacts to these wetlands and minimizing impacts to the adjacent area by siting the collection circuit along the edge of an active agricultural field, avoiding tree clearing by utilizing the narrowest disturbance limits possible, considering the available access to the Site and engineering constraints (e.g., work corridors necessary for trenching and cable installation), and by limiting disturbance to previously disturbed areas.
				Row Cropland	Minor	Grading and manipulation of disturbed areas	0.74	A		
33-W010	16	N/A	Unmapped	Successional northern hardwoods	Major	Other activities and structures integral to the project involving placement of fill	0.04	A	Turbine T-17 has been sited to avoid impacts to wetland 33-W010, while also minimizing impacts to active agricultural land. Shifting this turbine a sufficient distance to avoid impacts to this wetland's regulated adjacent area is not practicable, as it would place the turbine in a higher slope area that would require significantly greater impacts to active agricultural land and could orphan a portion of the field.	The Applicant has carefully designed the siting of turbine T-17 in a manner that avoids all impacts to wetland 33-W010. Considering the siting constraints outlined and considering the available access to the Site and engineering constraints (e.g., grading requirements and work areas necessary) the Applicant has minimized impacts to the regulated adjacent area to the greatest extent practicable.
				Successional northern hardwoods	Major	Clearing of forest	0.11	A		
66-W003	9	N/A	Unmapped	Successional spruce/fir plantation	Major	Access Roads	0.68	A	See the wetland 66-W003 avoidance discussion in Table 14-1.	See the wetland 66-W003 minimization discussion in Table 14-1.
					Major	Clearing of forest	0.19	A		
66-W004	8	N/A	Unmapped	Beech-maple Mesic Forest, Successional Spruce/Fir Plantation	Major	Other activities and structures integral to the project involving placement of fill	0.41	A	Turbine T-7 has been sited to avoid impacts to wetland 66-W004, while also avoiding impacts to adjacent federally regulated wetlands and streams. Shifting this turbine to the northeast to avoid impacts to this wetland's regulated adjacent area would be preferred by the Applicant, as it would avoid all impacts to this regulated adjacent area, shorten the access road and associated tree clearing, place the turbine in a more energetic location, and overall simplify construction. However, such a shift is not possible as it would place the turbine in a location that would not be suitable from a wake, turbulence, and setback standpoint.	The Applicant has carefully designed the siting of turbine T-7 in a manner that avoids all impacts to wetland 66-W004. Considering the siting constraints outlined and considering the available access to the site and engineering constraints (e.g., grading requirements and work areas necessary) the Applicant has minimized impacts to the regulated adjacent area to the greatest extent practicable.
				Beech-maple Mesic Forest, Successional Spruce/Fir Plantation	Major	Clearing of forest	0.17	A		
66-W011	12, 13, 14, 15	N/A	Unmapped	Successional Shrubland, Mowed Lawn, Spruce/Fir Plantation, Successional Northern Hardwoods, Riverine, Row Cropland, Field Cropland, Beech-Maple Mesic Forest	Major	Access Roads	1.96	A	See the wetland 66-W011 avoidance discussion in Table 14-1. In addition, the Applicant considered shifting the northern portions of the access road to T-11 further to the west to avoid impacts to regulated adjacent area located south of Mutton Hill Road; however, the presence of an Environmentally Sensitive Area just south of Mutton Hill Road, prevented any rerouting that would avoid impacts the regulated adjacent area shown on Sheet 12.	See the wetland 66-W011 minimization discussion in Table 14-1.
				Successional Northern Hardwoods, Beech-Maple Mesic Forest	Major	Clearing of forest	0.63	A		
				Successional Shrubland, Mowed Lawn, Spruce/Fir Plantation, Field Cropland	Major	Power Interconnections	0.79	A		

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required[1]	Why Avoidance is Not Practicable[2]	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
				Successional Shrubland	Intermediate	Clearing and manipulation of undisturbed herbaceous and woody vegetation	0.70	A		
				Mowed Lawn, Field Cropland, Row Cropland	Minor	Grading and manipulation of disturbed areas	0.57	A		
66-W016	1	N/A	Unmapped	Pastureland, Riverine	Major	Access Roads	0.63	A	See the wetland 66-W016 avoidance discussion in Table 14-1.	See the wetland 66-W016 avoidance discussion in Table 14-1. Impacts associated with the installation of the HDD were minimized to the extent practicable by siting the bore pits almost entirely out of the regulated adjacent area. Complete avoidance was not possible for the northern bore pit due to constraints associated with the adjacent Environmentally Sensitive Area and the proximity of the adjacent public road.
					Major	Power Interconnections	0.003	A		
					Minor	Grading and manipulation of disturbed areas	0.15	A		
93-W002	22	N/A	Unmapped	Successional Old Field	Minor	Grading and manipulation of disturbed areas	0.05	A	The collection line circuit has been sited to the edge of existing active agricultural fields west of Wetland 93-W002. This routing completely avoids any forest clearing associated with the adjacent area of Wetland 93-W002. The small, impacted portion of the regulated adjacent area appears to receive regular vehicle traffic. Avoiding impacts to the regulated adjacent area would require the Applicant to shift the collection line to the north, potentially placing it further into the agricultural field to the west and also reducing energy deliverability efficiency. This routing would be inferior to the current route, which will avoid substantive impacts to the regulated adjacent area, and is not a practicable alternative	The Applicant has carefully sited the collection line to avoid all impacts to wetland 98-W002. Considering the options available to the Applicant, impacts to the regulated adjacent have been minimized to the greatest extent practicable.
Total A Impacts							**16.00**			
Total A(E) Impacts							**2.17**			
Total Impacts							**18.17**			

[1] Per 19 NYCRR 900-2.15(g)(2)(i) of the Section 94-c regulations: A(E) = Allowed, enhancements and/or mitigation required (e.g., planting of adjacent area, mitigating hydrological change), A(E) = no enhancements or mitigation required with 75 foot or more setback, and A = Allowed, no mitigation or enhancement required.
[2] Section 94-c setback requirements dictate where wind turbine infrastructure may be placed on a parcel relative to where participating and non-participating properties, residences, and structures, public roadways, gas wells, substations, and above-ground electric systems exist; siting of the wind turbines and associated infrastructure must balance where sensitive resources exist, setback requirements, and landowner requests. Electrical engineering of a wind facility must be designed to accommodate power from individual turbines to the collection substation. Access roads are necessary for infrastructure maintenance and emergency response. Temporary work areas may be required to allow for construction and installation of Facility infrastructure.
[3] These wetlands are located proximal to each other, and their regulated adjacent areas overlap. Impacts to the regulated adjacent areas of these two wetlands are therefore being analyzed together.

(2) How the Facility Design has Minimized Proposed Impacts

Site-specific actions are proposed that will minimize direct and indirect impacts to wetlands and regulated adjacent areas that could not be avoided and are included in Tables 14-1 and 14-2. Existing farm roads were utilized for access road and collection line routes, where feasible, to take advantage of previously disturbed corridors and avoid further disturbance. Where access road and/or collection line crossings of wetlands are proposed, the Applicant sited the crossing location at existing crossings, at the narrowest part of the wetland, or along edges to reduce the extent of direct impacts to the wetland to the greatest extent practicable. In addition, as previously noted, trenchless installation of buried collection line crossings is proposed in several locations, to eliminate or minimize direct disturbance to wetland areas that would otherwise occur from trenching buried collection lines within wetlands.

Construction-related indirect impacts to wetlands and streams noted earlier, such as sedimentation and erosion, have the potential to result in degradation of downstream water quality. These impacts will be minimized and/or mitigated to the maximum extent practicable, because the Applicant will use best management practices, including implementing a Stormwater Pollution Prevention Plan (SWPPP; see preliminary SWPPP in Appendix 13-C). Specific impact avoidance and minimization measures for impacts could include, but are not limited to:

- *No Equipment Access Areas:* Except where crossed by permitted access roads or through use of temporary timber or composite matting, wetlands will be designated "No Equipment Access," thus prohibiting the use of motorized equipment in these areas.

- *Restricted Activities Area:* A buffer zone of 75 feet, referred to as "Restricted Activities Area," will be established where Facility construction will cross wetlands and other bodies of water. Restrictions will include:
    - No deposition of slash within or adjacent to a waterbody/wetland;
    - No accumulation of construction debris within the area;
    - No equipment washing or refueling within the area;
    - No storage of any petroleum or chemical material; and
    - No disposal of excess concrete or concrete wash water.

- *Sediment and Siltation Control:* A soil erosion and sedimentation control (E&SC) plan will be developed and implemented as part of the State Pollutant Discharge Elimination System (SPDES) General Permit for the Facility. Temporary E&SC practices may include silt fences, hay bales, and other options presented in the Preliminary SWPPP, and the civil design drawings in Appendix 5-A. Exposed soil will be seeded and/or mulched to assure that erosion and siltation is kept to a minimum along wetland boundaries. These features will be inspected on a regular basis to assure that they function properly throughout the period of construction, and until completion of all construction restoration work.

(3) How the Facility Design and Siting Minimizes Impacts to NYS Wetland Functions and Values

As described above, the proposed Facility design results in several direct impacts to the state-regulated wetlands and adjacent areas. State-regulated wetland impacts resulting from construction of collection lines are proposed to Unmapped wetlands and the regulated adjacent area of one NYSDEC Class I wetland. Many of these wetlands are stream floodplains, forested areas, wet shrublands in forest clearings, or fallow fields.

These wetlands provide many functions including groundwater recharge/discharge, sediment/toxicant retention, nutrient removal/retention/transformation, and flood flow alteration, sediment/shoreline stabilization, fish and shellfish habitat, and wildlife habitat. The Applicant has sought to minimize impacts to wetlands function and values primarily through micro-siting of Facility components to minimize the amount of impact area. In siting linear facility components such as collection lines and access roads, it was infeasible to avoid wetlands crossings entirely. In those instances, the Applicant utilized existing disturbance corridors (e.g., farm roads, active farmland, etc.), identified the narrowest crossing of wetlands, or sited components on the edges of impacted features to limit the impact to the larger wetland or wetland complex. Additionally, the Project incorporated design features to minimize impacts to the existing hydraulic functions and the overall footprint of the Facility in wetlands. This includes utilizing trenchless crossing technologies (HDD) for crossing specific wetlands (Figure 14-2 - Revision 1).

The avoidance and minimization considerations during Facility layout design have minimized adverse impacts to high value on-site wetlands and their functions and values to the greatest extent practicable. In addition, implementation of the best management practices described above during construction will further minimize and mitigate impacts to wetland functions and values. However, the Applicant acknowledges that the proposed layout may result in unavoidable loss of some wetland functions and values within the proposed collection line routes, primarily wildlife and fish and shellfish habitat.

(4) How the Facility Design and Siting Maximizes or Improves Functions and Values of Remaining NYS Wetlands

As stated above, impacts to state-jurisdictional wetlands and regulated adjacent areas requiring mitigation have been avoided and minimized to the maximum extent practicable as a result of the Applicant's iterative design process. Upon completion of construction, wetlands and adjacent areas will be restored to improve functions and values based on the pre-existing ecological community types.

The functions and values of most remaining wetlands and adjacent areas will not be affected by Facility construction or operation. However, some remaining wetlands and adjacent areas will be improved through the installation of permanent post-construction stormwater practices in areas previously lacking such controls (e.g., row cropland adjacent to state-regulated wetlands), the removal of invasive species as part of the Facility's Invasive Species Control and Management Plan, and the cessation of

certain agricultural practices in proximity to state-regulated wetlands (e.g., plowing, planting, and fertilizer/herbicide application).

(g) Wetland Restoration and Mitigation

As stated previously, there will be unavoidable impacts to state-regulated wetlands and adjacent areas requiring mitigation per 19 NYCRR § 900-2.15(g). As stated in Exhibit 14(e) and 14(f), approximately 1.33 and 2.17 acres of impacts within state-regulated wetlands and adjacent areas will require mitigation, respectively. As outlined in the draft Wetland Restoration and Mitigation Plan (Appendix 14-D), the Applicant is pursuing various options such as mitigation banks and/or permittee-sponsored mitigation projects to satisfy these mitigation obligations. In accordance with Section 900-10.2(f)(2), the finalized Wetland Restoration and Mitigation Plan will be submitted as a pre-construction compliance filing pursuant to Section 900-10.2(f)(2).

The Facility will also be permitted with the USACE under a Nationwide or Individual Permit and to the extent necessary mitigation for impacts to federally regulated wetlands will be developed through consultation with the USACE.

REFERENCES

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